



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,770	03/06/2002	Rotem Cooper	010113	8732

23696 7590 02/22/2007
QUALCOMM INCORPORATED
5775 MOREHOUSE DR.
SAN DIEGO, CA 92121

EXAMINER

DANIEL JR, WILLIE J

ART UNIT	PAPER NUMBER
----------	--------------

2617

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	02/22/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 02/22/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com
kscanla@qualcomm.com
t_ssadik@qualcomm.com

Office Action Summary	Application No.		Applicant(s)	
	10/092,770		COOPER, ROTEM	
	Examiner		Art Unit	
	Willie J. Daniel, Jr.		2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to applicant's RCE amendment filed on 05 December 2006.

Claims 1-25 are now pending in the present application. This office action is made **Non-Final**.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05 December 2006 has been entered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5 and 7-25 are rejected under 35 U.S.C. 102(e) as being anticipated by **Bamburak et al.** (hereinafter Bamburak) (US 2005/0113089 A1).

Regarding **claim 1**, Bamburak discloses in a mobile communication device (10) which reads on the claimed “mobile station” storing a list of wireless communications systems (see pg. 2-3, [0026]; Figs. 3 and 9-11), a system acquisition procedure comprising the steps of:

selecting, by the mobile station (10), each of a plurality of wireless communications systems (see pgs. 2-3, [0026-0027]; Figs. 6-10);

initiating, by the mobile station (10), acquisition/registration attempts by the mobile station (10) in response to selecting each of the plurality of wireless communications systems (see pgs. 2-3, [0026-0027]; Figs. 6-10);

creating and maintaining, by the mobile station (10), system priority data in response to the mobile station (10) initiating the acquisition/registration attempts, the system priority data including a first plurality of system identifiers and corresponding priority criteria including historical statistical information regarding the acquisition/registration attempts by the mobile

Art Unit: 2617

station (10) (see pgs. 2-3, [0026-0027]; pg. 3, [0028, lines 10-12]; pg. 4, [0029, lines 94-97]; Figs. 6-10);

selecting, by the mobile station (10), a group of wireless communications systems from the list in accordance with a predetermined system selection procedure, the group of wireless communications systems having a first system acquisition order (see pg. 5, [0033, lines 1-4, 21-23; 0034]; pg. 3, [0028, lines 10-12]; Figs. 8-10);

reprioritizing, by the mobile station (10), the group of wireless communications systems in accordance with the priority criteria, the reprioritized group of wireless communications systems having a second system acquisition order based upon respective system desirability levels (see pg. 5, [0034-0039]; Figs. 8-10); and

attempting, by the mobile station (10), to acquire the wireless communications system in the reprioritized group of wireless communications systems that has a highest priority (see pg. 5, [0034-0039]; Figs. 8-10).

Regarding **claim 2**, Bamburak discloses the method of claim 1 wherein the list of wireless communications systems is a preferred roaming list including a geographic region identifier (see pg. 4, [0029, lines 94-97]; Fig. 2), wherein the step of selecting a group of wireless communications systems comprises the steps of:

determining, by the mobile station (10), a current geographic region of the mobile station (10) (see Fig. 2); and

searching, by the mobile station (10), the preferred roaming list for wireless communications systems having a geographic region identifier that corresponds to the

current geographic region of the mobile station (10) (see pg. 4, [0029, lines 94-97]; Fig. 2);
and

wherein the first system acquisition order is dictated by the relative order of the selected wireless communications systems in the preferred roaming list (see pg. 5, [0034-0039]; pg. 3, [0028, lines 10-12]; pg. 4, [0029, lines 94-97]; Figs. 8-10).

Regarding **claim 3**, Bamburak discloses the method of claim 2 wherein at least two of the selected systems share the same desirability level (see Fig. 9), where FREQ F and FREQ E both have a counter value of 0.

Regarding **claim 4**, Bamburak discloses the method of claim 3 wherein the step of reprioritizing comprises the steps of:

locating, by the mobile station (10), selected systems that share the same desirability level (see Figs. 3 and 6-10), where FREQ F and FREQ E both have a counter value of 0; and

sorting, by the mobile station (10), the located systems using the priority criteria (see Figs. 3 and 6-10), where FREQ F and FREQ E both have a counter value of 0.

Regarding **claim 5**, Bamburak discloses the method of claim 3 wherein the step of reprioritizing comprises the steps of:

for each selected system, adjusting, by the mobile station (10), the corresponding desirability level if the corresponding priority criteria exceeds a first threshold, the adjusted desirability criteria being stored in the group of wireless communications systems (see pg. 5, [0034-0039]; pg. 3, [0028, lines 10-12]; pg. 4, [0029, lines 94-97]; pgs. 5-6, [0032, lines 1-33]; Figs. 7-10); and

sorting, by the mobile station (10), the group of wireless communications systems using the adjusted desirability levels (see pg. 5, [0034-0039]; pg. 3, [0028, lines 10-12]; pg. 4, [0029, lines 94-97]; Figs. 5-10).

Regarding **claim 7**, Bamburak discloses the method of claim 1 wherein the step of creating and maintaining further comprises the steps of:

detecting, by the mobile station (10), a communications event for a currently selected wireless communications system, the currently selected wireless communications system having a corresponding system identifier (see pg. 5, [0034-0039]; Figs. 3 and 7-10); and

updating, by the mobile station, an entry in the system priority data to reflect the occurrence of the detected communications event, the updated entry including the corresponding system identifier (see pg. 5, [0034-0039]; Figs. 3 and 7-10).

Regarding **claim 8**, Bamburak discloses the method of claim 7 wherein the historical statistical information further includes information regarding system acquisition failures and system access failures (see pg. 5, [0034-0039]; Figs. 3 and 7-10).

Regarding **claim 9**, Bamburak discloses the method of claim 7 wherein the corresponding system identifier includes a mode and a frequency (see pg. 5, [0034-0039]; Figs. 3 and 7-10).

Regarding **claim 10**, Bamburak discloses the method of claim 7 wherein the step of updating further comprises calculating, by the mobile station, an occurrence rate of the detected event for the currently selected wireless communications system and storing the calculated occurrence rate (see pg. 5, [0034-0039]; Figs. 3 and 7-10).

Regarding **claim 11**, Bamburak discloses the method of claim 10 wherein the detected event is a successful signal acquisition and the calculated occurrence rate is a signal acquisition success rate (see pg. 5, [0034-0039]; Figs. 3 and 7-10).

Regarding **claim 12**, Bamburak discloses the method of claim 10 wherein the detected event is a failed system access attempt and the calculated occurrence rate is a system access failure rate (see pg. 5, [0034-0039]; Figs. 3 and 7-10).

Regarding **claim 13**, Bamburak discloses the method of claim 1 wherein the step of reprioritizing comprises sorting, by the mobile station, the group of wireless communications systems in accordance with the priority criteria (see pg. 5, [0034-0039]; Figs. 3 and 7-10).

Regarding **claim 14**, Bamburak discloses the method of claim 1 wherein, if the attempted system acquisition and access fails, the step of attempting is repeated with the listed system having a next highest priority in the group (see pg. 5, [0034-0039]; Figs. 3 and 7-10).

Regarding **claim 15**, Bamburak discloses in a mobile station (10), a method for creating and maintaining system priority data (see pg. 5, [0034-0035]; pgs. 2-3, [0026-0027]; Figs. 3 and 8-10) comprising the steps of:

detecting, by the mobile station (10), a communications event for a currently selected wireless communications system in response to an acquisition/registration attempt initiated by the mobile station, the currently selected wireless communications system having a corresponding system identifier (see pg. 5, [0034-0039]; Figs. 3 and 7-10); and

updating, by the mobile station (10), an entry in the system priority data to reflect historical statistical information regarding the acquisition/registration attempts for the

detected communications event based upon respective system desirability levels, the entry including the corresponding the system identifier (see pg. 5, [0034-0039]; Figs. 3 and 7-10).

Regarding **claim 16**, Bamburak discloses the method of claim 15 wherein said historical statistical information further comprise information regarding system acquisition failures and system access failures (see pg. 5, [0034-0039]; pgs. 2-3, [0026-0027]; Figs. 3 and 7-10).

Regarding **claim 17**, Bamburak discloses the method of claim 15 wherein said historical statistical information further comprise information regarding successful system acquisitions, successful system accesses, and signal power measurements (see pg. 5, [0034-0039]; Figs. 3 and 7-10).

Regarding **claim 18**, Bamburak discloses the method of claim 15 wherein the step of updating further comprises calculating, by the mobile station (10), an occurrence rate of the detected event for the currently selected wireless communications system and storing the calculated occurrence rate (see pg. 5, [0034-0039]; pgs. 2-3, [0026-0027]; Figs. 3 and 7-10).

Regarding **claim 19**, Bamburak discloses the method of claim 15 wherein each entry in the system priority data includes a timestamp and wherein the entries in the system priority data are deleted after a certain duration of time (see pg. 5, [0034-0039]; Figs. 3 and 5-10), where the frequency is counted and have time-weighted registrations in which the deletion would be inherent when a frequency is prohibited as evidenced by the fact that one of ordinary skill in the art would clearly recognize.

Regarding **claim 20**, Bamburak discloses the method of claim 15 wherein the step of updating further comprises calculating, by the mobile station (10), a priority metric based on

Art Unit: 2617

a plurality of priority criteria, the priority metric representing the likelihood that an attempt to acquire and register with a corresponding wireless communications system will be successful (see pg. 5, [0034-0039]; Figs. 3 and 5-10).

Regarding **claim 21**, Bamburak discloses a mobile station (10) (see Fig. 3) comprising:

a memory (16), in the mobile station (10), storing a preferred roaming list, the preferred roaming list including a first plurality of system identifiers and corresponding acquisition parameters (see pg. 2-3, [0026-0027]; Figs. 3 and 9-11); and

processing circuitry (14), in the mobile station (10) (see pgs. 2-3, [0026-0027]; Figs. 3 and 6-10), adapted to:

select each of a plurality of wireless communications systems in response to the preferred roaming list (see pgs. 2-3, [0026-0027]; Figs. 6-10);

initiate acquisition/registration attempts by the mobile station (10) in response to selecting each of the plurality of wireless communications systems (see pgs. 2-3, [0026-0027]; Figs. 6-10);

create and maintain system priority data in response to the mobile station (10) initiating the acquisition/registration attempts, the system priority data being stored in the memory and including a second plurality of system identifiers and corresponding priority criteria including historical statistical information regarding the acquisition/registration attempts by the mobile station (10) based upon respective system desirability levels (see pg. 5, [0034-0039]; pg. 3, [0028, lines 10-12]; pg. 4, [0029, lines 94-97]; Figs. 8-10);

detect a communications event for a currently selected wireless communications system (see pg. 5, [0034-0039]; Figs. 3 and 5-10); and

update the historical statistical information in the system priority data to reflect the occurrence of the detected communications event (see pg. 5, [0034-0039]; Figs. 3 and 5-10).

Regarding **claim 22**, Bamburak discloses the mobile station of claim 21 wherein the processing circuitry (14) (see Fig. 3) comprises:

a system determination unit (14), in the mobile station (10), adapted to select wireless communications systems from the preferred roaming list in accordance with a predetermined system selection procedure, the selected wireless communications systems have a corresponding system acquisition order (see pg. 5, [0034-0039]; pgs. 2-3, [0026-0027]; Figs. 3 and 6-10),

wherein the system determination unit (14) is further adapted to modify the system acquisition order based on the system priority data, the modified system acquisition order increasing the efficiency of the system acquisition process (see pg. 5, [0034-0039]; pgs. 2-3, [0026-0027]; Figs. 3 and 6-10).

Regarding **claim 23**, Bamburak discloses the mobile station of claim 22 wherein the system determination unit (14) is further adapted to adjust the corresponding desirability criteria of a selected system if the corresponding priority criteria exceeds a first threshold and sort the selected wireless communications systems using the adjusted desirability criteria (see pg. 5, [0034-0039]; pg. 3, [0028, lines 10-12]; pg. 4, [0029, lines 94-97]; pgs. 5-6, [0032, lines 1-33]; Figs. 7-10).

Regarding **claim 24**, Bamburak discloses the mobile station of claim 23 wherein the processing circuitry (14) is further adapted to measure the power (e.g., strength or amplitude) of a received signal corresponding to the currently selected wireless communications system and store the measured power (e.g., strength or amplitude) in the system priority data (see pgs. 5-6, [0032, lines 1-33]; pg. 5, [0034-0039]; pg. 3, [0028, lines 10-12]; pg. 4, [0029, lines 94-97]; Figs. 6-10), where the mobile station (10) uses a received signal strength search (RSS) routine.

Regarding **claim 25**, Bamburak discloses the mobile station of claim 23 wherein the processing circuitry is further adapted to calculate the signal to noise ratio E_c/I_o of a received signal corresponding to the currently selected wireless communications system and store the calculated signal to noise ratio E_c/I_o in the system priority data (see pgs. 5-6, [0032, lines 1-33]; pg. 5, [0034-0039]; pg. 3, [0028, lines 10-12]; pg. 4, [0029, lines 94-97]; Figs. 6-10), where the mobile station (10) uses a received signal strength search (RSS) routine in which the signal to noise ratio would be inherent as evidenced by the fact that one of ordinary skill in the art would clearly recognize.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Bamburak et al.**

(hereinafter Bamburak) (**US 2005/0113089 A1**) in view of **Lynch et al.** (hereinafter Lynch) (**US 5,586,338**).

Regarding **claim 6**, Bamburak discloses the method of claim 3 wherein the step of reprioritizing comprises removing, by the mobile station (10), a selected system (e.g., SID) from the group if its corresponding priority criteria exceeds a second threshold (see pg. 3, [0027]; pg. 4, [0029, lines 75-81; 0031, lines 21-22]; pg. 5, [0034-0039]; Figs. 8-10), where the device determines which service providers are prohibited. Bamburak does not specifically disclose having the feature a selected system from the group if its corresponding priority criteria exceeds a second threshold. However, the examiner maintains that the feature a selected system from the group if its corresponding priority criteria exceeds a second threshold was well known in the art, as taught by Lynch.

In the same field of endeavor, Lynch discloses the feature a selected system from the group if its corresponding priority criteria exceeds a second threshold (see col. 9, line 9 - col. 10, line 67; Figs. 5-6), where the removing of a SID would be inherent when selecting according to the criterion for priority which has a high and low tolerance for the preferred list.

Art Unit: 2617

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Bamburak and Lynch to have the feature a selected system from the group if its corresponding priority criteria exceeds a second threshold, in order to prioritize cellular service provider with which the home service provider of a cellular subscriber has business arrangements, as taught by Lynch (see col. 3, lines 48-51).

Response to Arguments

5. Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection necessitated by the new limitations.

In response to applicant's arguments, the Examiner respectfully disagrees as the applied reference(s) provide more than adequate support and to further clarify (see the above claims for relevant citations).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Bamburak et al. (US 6,782,259 B2) discloses a method for selecting a preferable wireless communication service provider in a multi-service provider environment.
- b. Reddy (WO 01/01666 A1) discloses a wireless communication fringe coverage enhancement.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Willie J. Daniel, Jr. whose telephone number is (571) 272-7907. The examiner can normally be reached on 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2617

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WJD,JR/

WJD,JR
14 February 2007


ERIKA A. GARY
PRIMARY EXAMINER